

In the Claims:

Claims 1 to 32 (Canceled).

1 **33.** (New) A method for preparing fuel for a high temperature
2 fuel cell, said method comprising the following steps:

- 3 (a) providing a liquid hydrocarbon fuel,
4 (b) collecting and preparing waste water to provide
5 prepared waste water suitable for use in said high
6 temperature fuel cell,
7 (c) emulsifying said liquid hydrocarbon fuel with said
8 prepared waste water to provide an emulsion,
9 (d) feeding, directly following said emulsifying step,
10 said emulsion through a gap (16) between two
11 concentric pipes, one pipe being connected to an anode
12 of a d.c. power source while the other pipe is
13 connected to a cathode of said d.c. power source, and
14 (e) electrolytically cracking, in said gap, molecular
15 bindings of organic compounds of said emulsion for
16 preparing said fuel.

1 **34.** (New) The method of claim 33, further comprising performing
2 at least one additional cracking step downstream of said
3 electrolytic cracking step, said at least one additional
4 cracking step being performed as any one of an
5 electrochemical cracking step, a thermal cracking step and
6 a catalytic cracking step for reducing longer hydrocarbon

7 chain bonds in said emulsion into still shorter hydrocarbon
8 chain bonds.

1 35. (New) The method of claim 33, further comprising
2 desulfurizing said emulsion by a step of catalytically
3 withdrawing sulfur and sulfur compounds including hydrogen
4 sulfide from said emulsion.

1 36. (New) The method of claim 33, further comprising performing
2 said emulsifying step by exposing said prepared waste water
3 and said liquid hydrocarbon fuel to a sound vibration in a
4 container.

1 37. (New) The method of claim 33, further comprising feeding
2 said liquid hydrocarbon fuel and said prepared waste water
3 into a container to a point in front of an ultrasound
4 vibrator.

1 38. (New) The method of claim 33, further comprising feeding
2 variable quantities of said prepared waste water and of
3 said liquid hydrocarbon fuel to sustain said emulsifying
4 step.

1 39. (New) The method of claim 33, further comprising performing
2 said emulsifying step continuously.

1 40. (New) The method of claim 33, further comprising monitoring
2 said emulsion for providing emulsion quality information

and using said emulsion quality information for controlling said emulsifying step.

41. (New) The method of claim 33, further comprising starting said high temperature fuel cell by using CH_4 as a starter fuel until an operating temperature of said high temperature fuel cell has been reached, and then switching over said high temperature fuel cell to receive said emulsion as an operating fuel.

42. (New) The method of claim 41, further comprising performing said switching over continuously in a stepless overlapping manner.

43. (New) The method of claim 33, further comprising the step of dosing said liquid hydrogen fuel and said prepared waste water through respective backflow preventing, positive-feed dosing pumps.

44. (New) The method of claim 43, further comprising electronically controlling said respective backflow preventing, positive-feed dosing pumps in a closed loop manner in response to any one of performance parameters of said high temperature fuel cell and emulsion quality parameters.

45. (New) The method of claim 44, further comprising including in said step of electronically controlling a switch-off

function for stopping said step of providing said liquid hydrocarbon fuel in response to an emergency.

46. (New) The method of claim 34, further comprising performing said at least one additional cracking step in a separate housing positioned inside an enclosure of said high temperature fuel cell.

47. (New) The method of claim 34, further comprising using thermal energy of said high temperature fuel cell for performing said at least one additional cracking step.

48. (New) The method of claim 35, further comprising performing said step of desulfurizing in a separate housing positioned inside an enclosure of said high temperature fuel cell.

49. (New) The method of claim 48, further comprising using thermal energy of said high temperature fuel cell for said desulfurizing of said emulsion.

50. (New) The method of claim 35, further comprising performing said step of desulfurizing by chemically binding said sulfur and sulfur compounds to form stable compounds and collecting said stable compounds to avoid discharge into the atmosphere.

51. (New) The method of claim 33, further comprising measuring and controlling an electrical conductivity of said emulsion

to have an electrical conductivity required for said electrolytical cracking step.

52. (New) The method of claim 33, further comprising using as said d.c. power source a source having an output voltage of about 10 volts.

53. (New) The method of claim 52, further comprising using said high temperature fuel cell for providing said output voltage of about 10 volts by connecting each of said two concentric pipes to a respective electrical terminal of said high temperature fuel cell.

54. (New) The method of claim 33, further comprising using kerosene as said liquid hydrocarbon fuel.

55. (New) The method of claim 33, further comprising performing said step of preparing said waste water by passing said waste water through any one or more of filtration and reverse osmosis steps.

56. (New) An apparatus for performing the method of claim 33 for preparing fuel for a high temperature fuel cell, said apparatus comprising:

(a) an emulsifying container (1), a first dosing pump (6) connected to said emulsifying container (1) for feeding liquid hydrocarbon fuel into said emulsifying container,

- (b) a waste water cleaning station (15) for collecting and preparing waste water to provide prepared waste water suitable for use in said high temperature fuel cell, and a second dosing pump (7) connecting said waste water cleaning station (15) to said emulsifying container,
- (c) means (5, 5A) in said emulsifying container for emulsifying said liquid hydrocarbon fuel with said prepared waste water to provide an emulsion,
- (d) two concentric pipes (16) forming a gap between said two concentric pipes, said gap being directly connected to an outlet of said emulsifying container (1), a d.c. power source having an anode connected to one pipe of said two concentric pipes and a cathode connected to the other pipe of said two concentric pipes, and
- (e) wherein said gap is constructed for electrolytically cracking molecular bindings of organic compounds of said emulsion for preparing said fuel.

57. (New) The apparatus of claim 56, further comprising an enclosure (4) wherein said high temperature fuel cell (10) is housed, a catalyst (2), a separate housing (2A) in said enclosure (4), said catalyst being contained in said separate housing (2A) inside said enclosure (4).

58. (New) The apparatus of claim 57, further comprising a separate second housing (3A) inside said enclosure (4) of

3 said high temperature fuel cell (10), said separate second
4 housing (3A) serving for performing any one of an
5 electrochemical cracking step, a thermal cracking step and
6 a catalytic cracking step.

1 **59.** (New) The apparatus of claim 56, wherein said d.c. power
2 source is said high temperature fuel cell (10).

[RESPONSE CONTINUES ON NEXT PAGE]